

**ARGUMENTS/REMARKS**

This response is filed in reply to the Office Action mailed by the Examiner on April 26, 2007. Claims 1, 4-15, 17, 19 and 24 were canceled in prior office action(s). Claims 2, 3, 16, 18, 20-23 and 25-31 are both reiterated and pending.

**Rejections Under 35 U.S.C. § 102**

Claims 2-3, 18, 21, 23, 25, 27, 29, 30-31 are rejected under 35 U.S.C. § 102(e) as being anticipated by Coffman et al., U.S. Patent No. 6,464,942 (hereinafter "Coffman"). Applicants traverse the rejection for at least the following reasons.

**1. Coffman fails to teach or suggest "a plurality of cartridges for dispensing liquid drops in the range of 10-500 nanoliters," as required by claims 18, 25 and 31.**

Coffman does not teach or suggest cartridges for dispensing drops of liquid in the 10-500 nanoliter (nl) range. Instead, Coffman teaches the transfer of microliters (μl) of fluid. (See e.g. col. 6, ll. 8 and 13). Further, the Examiner refers to Coffman, noting "each well of the 96-well plate 10 might hold 400 μl of sample while the receiving well 23 in the 384-well plate 20 might only hold 120 μl." (Office Action, p. 2). By way of example only, 10-50 microliters is "...2 to 3 orders of magnitude greater than the range of interest" [i.e. the 10-500 nanoliter range as required by claims 18, 25 and 31]. (Current specification, p. 1, ll. 16-18). Coffman does not teach or suggest the dispensing of this significantly smaller volume of liquid.

Because Coffman does not teach or suggest a plurality of cartridges for dispensing liquid drops in the range of 10-500 nanoliters, as required by claims 18, 25 and 31, the claims are not anticipated by Coffman.

**2. Coffman fails to teach or suggest "a cassette comprising a plurality of cartridges for dispensing liquid drops in the range of 10-500 nanoliters, each cartridge comprising a liquid reservoir and an outlet member (claim 18) or protruding nozzle (claim 25)...wherein the liquid reservoir...is closed at one end thereof by a frangible sealing means," as required by claims 18 and 25.**

Coffman does not teach or suggest cartridges for dispensing liquid drops in the range of 10-500 nanoliters, each cartridge comprising a liquid reservoir and an outlet member (claim 18) or protruding nozzle (claim 25), wherein the liquid reservoir is closed at one end thereof by a

frangible sealing means, as required by claims 18 and 25. Instead, Coffman teaches a 96-well plate with drip directors and a 384-well plate adapted to receive the 96-well plate, thus "provid[ing] for the direct transfer of samples from a first well plate, such as a 96-well plate, to a second well plate, such as a 384-well plate." (See col. 7, ll. 10-12). The Examiner admits the 384-well plate could be fitted with a flexible, puncturable membrane. (Office Action p. 2). In other words, the receiving or second plate is fitted with a flexible, puncturable membrane. Claims 18 and 25 do not contain such a limitation.

Coffman does not teach or suggest a cassette comprising a plurality of cartridges for dispensing liquid drops in the range of 10-500 nanoliters, each cartridge comprising a liquid reservoir and an outlet member (claim 18) or protruding nozzle (claim 25), wherein the liquid reservoir is closed at one end thereof by a frangible sealing means, as required by claims 18 and 25, and therefore, the claims are not anticipated by Coffman.

**3. Coffman fails to teach or suggest a liquid dispensing apparatus and a pressurised gas source, as required by claims 23 and 29.**

Coffman does not teach or suggest a pressurised gas source and a liquid dispensing apparatus. Rather, Coffman teaches that liquid transfer "can be facilitated via an appropriate vacuum manifold coupled to the lower surface of the 384-well plate." (See col. 6, ll. 36-38). Further, the Examiner admits that Coffman teaches "a vacuum source may be[sic] employed to aid in the transfer of the liquid." (Office Action, p. 3).

Because Coffman does not teach or suggest a liquid dispensing apparatus and a pressurised gas source as required by claims 23 and 29, the claims are not anticipated by Coffman.

**Rejections Under 35 U.S.C. § 103**

Claims 16, 20, 22, 26 and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Coffman. Applicants traverse the rejection for at least the following reasons.

Claim 18 requires "... a plurality of cartridges for dispensing liquid drops in the range of 10-500 nanoliters...each cartridge comprising a liquid reservoir and an outlet member...said outlet member comprising an aperture and... the liquid reservoir contains a quantity of liquid and is closed at one end thereof by a frangible sealing means." Claims 16, 20, and 22 depend upon claim 18.

Claim 25 requires "... a plurality of cartridges for dispensing liquid drops in the range of 10-500 nanoliters...each cartridge comprising a liquid reservoir and a protruding nozzle... the liquid reservoir contains a quantity of liquid and is closed at one end thereof by a frangible sealing means." Claims 26 and 28 depend upon claim 25.

To satisfy the requirements of a *prima facie* case for obviousness, the cited references must teach every limitation of the claimed invention. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Further, there must be some teaching, motivation or suggestion to modify or combine the references to produce the claimed invention. *In re Kahn*, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006). See also, *In re Kotzab*, 217 F.3d 1365, 54 USPQ2d 1308, 1316 (Fed. Cir. 2000); *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). It is the Applicants understanding that the sole reference is Coffman. If the Examiner is referring to other references, Applicants respectfully request that the Examiner clearly identify those references.

**1. Coffman fails to disclose any of the claim limitations of claims 16, 20, 22, 26 and 28.**

The Examiner admits that Coffman "does not specify the specific dimensions of the wells, the membrane material, or that the biological sample is a specific enzyme." (Office Action p. 4). The Examiner asserts that it would have been obvious to one of skill in the art to recognize the missing limitations. However, the Examiner does not point to any secondary reference teaching the claimed limitations, and further, the Examiner has not taken Official Notice of the missing claim limitations. In the absence of any specific teaching directed to the missing claim limitations, the Examiner has not satisfied the requirements for a *prima facie* obviousness rejection. Therefore, it is respectfully requested this rejection be withdrawn.

**2. Coffman does not provide a motivation or suggestion to combine or provide an expectation of success for a liquid dispensing cassette that can dispense drops of nanoliters of liquid with the required limitations of claims 16, 20, 22, 26 and 28.**

As stated previously, Coffman fails to disclose any of the claim limitations of claims 16, 20, 22, 26 and 28. Coffman also does not provide a motivation or suggestion to combine or provide an expectation of success for a liquid dispensing cassette that can dispense nanoliters of

liquid drops with the required limitations of claims 16, 20, 22, 26 and 28. The Examiner asserts that it would have been obvious to one of skill in the art to recognize the missing limitations. However, the Examiner does not provide a secondary reference that provides a motivation or suggestion to combine or one that provides an expectation of success for a liquid dispensing cassette that dispenses nanoliters of liquid drops with the limitations required by claims 16, 20, 22, 26 and 28.

In addition, the invention cannot be used as a blueprint for identifying a suggestion or motivation. As stated in *In re Dembiczak*, "combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability---the essence of hindsight." *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d (BNA) 1614 (Fed. Cir. 1999). The *Dembiczak* court further cites *Interconnect Planning Corp.* noting, "the invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time." *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d (BNA) 1614 (Fed. Cir. 1999) (citing *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ (BNA) 543, 547 (Fed. Cir. 1985)).

Thus, in the absence of a showing of some motivation or suggestion to combine or an expectation for success of a liquid dispensing cassette that dispenses nanoliters of liquid drops with the limitations required by claims 16, 20, 22, 26 and 28, the Examiner has not satisfied the requirements for a *prima facie* obviousness rejection. Therefore, it is respectfully requested this rejection be withdrawn.

### Conclusion

It is respectfully submitted that all issues raised in this Office Action have been addressed herein. If the Examiner maintains the rejection of any pending claim, Applicants respectfully request that it be pointed out with particularity how the cited reference meets each and every term of each claim with respect to which the rejection is maintained, and if the rejection is based on obviousness, identification of the specific motivation, suggestion or teaching in the reference for combining elements in the specific combination of the invention. In view of the foregoing, Applicants submit this application now stands in allowable form and reconsideration and allowance is respectfully requested.

This response is being submitted on or before July 26, 2007 making this a timely response. It is believed that no additional fees are due in connection with this filing. However,

the Commissioner is authorized to charge any additional fees, including extension fees or other relief which may be required, or credit any overpayment and notify us of same, to Deposit Account No. 04-1420.

Respectfully submitted,

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Date:

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